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Poster Presentation

PHENIX measurement of dihadron correlation in Au+Au collision at 200 GeV: jet quenching and medium response

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We present a detailed survey of the trigger p_T, partner p_T and centrality dependence of near- and away-side jet shapes and yields in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV from RUN4. These measurements provide a broad overview of the different physical features that come into play for different p_T ranges. In particular, the results can be interpreted as the interplay between the jet fragmentation and response of the medium to quenched jets. The former dominates the high p_T region, while the latter dominates the low and intermediate p_T region. These results allow a detailed comparison of the similarities as well as the differences of the correlation pattern between the near- and away-side, and provide new insights into the physical processes of the jet-medium interactions. Together with the inclusive hadron productions, they also allows us to quantify the role of jets at intermediate p_T, where the particle production was believed to be dominated by the soft processes such as hydrodynamical flow and recombination.

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